STATE OF NEW HAMPSHIRE
Department of Resources and Economic Development
Division of Forests and Lands

FOREST PEST CONDITION REPORT

Bruce Spanworm - 1985

Bruce Spanworm larvae were found feeding in several areas of northern New Hampshire in 1985. Light defoliation was evident from the ground in Pittsburg, Clarksville, Columbia, and Errol. The Forest Protection aerial survey for spanworm defoliation reported no noticeable hardwood defoliation north of the White Mountain National Forest - an obvious change from the 1984 report of 18,400 acres and the 1983 report of 17,600 acres of spanworm defoliation.

The extension of our sticky band adult monitoring system in 1985 resulted in an increase of trapping sites. 3.5 times the number of sites monitored in 1984. The average number of adult moths trapped in the north country in 1985 declined. When compared to the number caught in 1984, the catch amounted to a 67 percent reduction. In the southern area, south of the White Mountain National Forest, the catch in 1985 was down 30 percent from the 1983 catch. South of the White Mountains the number of moths is so low we expect the population has probably reached endemic levels.

The extensive twig and branch dieback damage on sugar maple, white and yellow birch in the north country could be caused by successive years of Bruce Spanworm defoliation. However, our observations in 1984 and 1985 continues to show no consistent relationship between the areas of twig dieback and areas known to have been defoliated by Bruce Spanworm.

Prepared by:

Alfred C. Avery
Forest Entomologist

January 1986

STATE OF NEW HAMPSHIRE
Department of Resources and Economic Development
Division of Forests and Lands

FOREST PEST CONDITIONS REPORT

Ice Damaged Timber Stands - 1986

A ground survey to characterize and locate areas of ice damage to the forest resources has recently been completed by field staff of the Division of Forests and Lands, Insect and Disease Section.

The intrusion of a warmer air mass and clearing weather on March 13, 1986, brought with it pockets of below freezing air at the 1,000 - 2,000 foot elevation. Damage, caused by the freezing of drizzle on trees, occurred on at least 9,800 acres of mostly northern hardwood; sugar maple, beech, yellow birch, black cherry and red maple.

Heavy ice damage, trees with more than fifty percent crown breakage, occurred in approximately ten percent of the stems in the affected stands. Acreage estimates of heavily damaged trees ranged from 40 to 655 acres. Heavy damage occurred in the towns of Temple, Sharon, Stoddard, Peterborough, Nelson, Dublin and Wilmot. In Stoddard, a heavily thinned sugar maple stand virtually lost all crowns in the pole-sized residual trees due to ice loads. Few sawtimber-sized trees suffered fifty percent crown loss in the heavy damage areas observed. Heavy damage occurred in seven distinct forested areas, totalling approximately 2,000 acres.

Light ice damage was found in thirty-two forested locations and is estimated to comprise nearly 8,600 acres of forest land. Much of the ice loading on forest trees occurred on eastern aspects with few areas of damage occurring at the tops and ridge lines of the higher peaks in the affected areas.

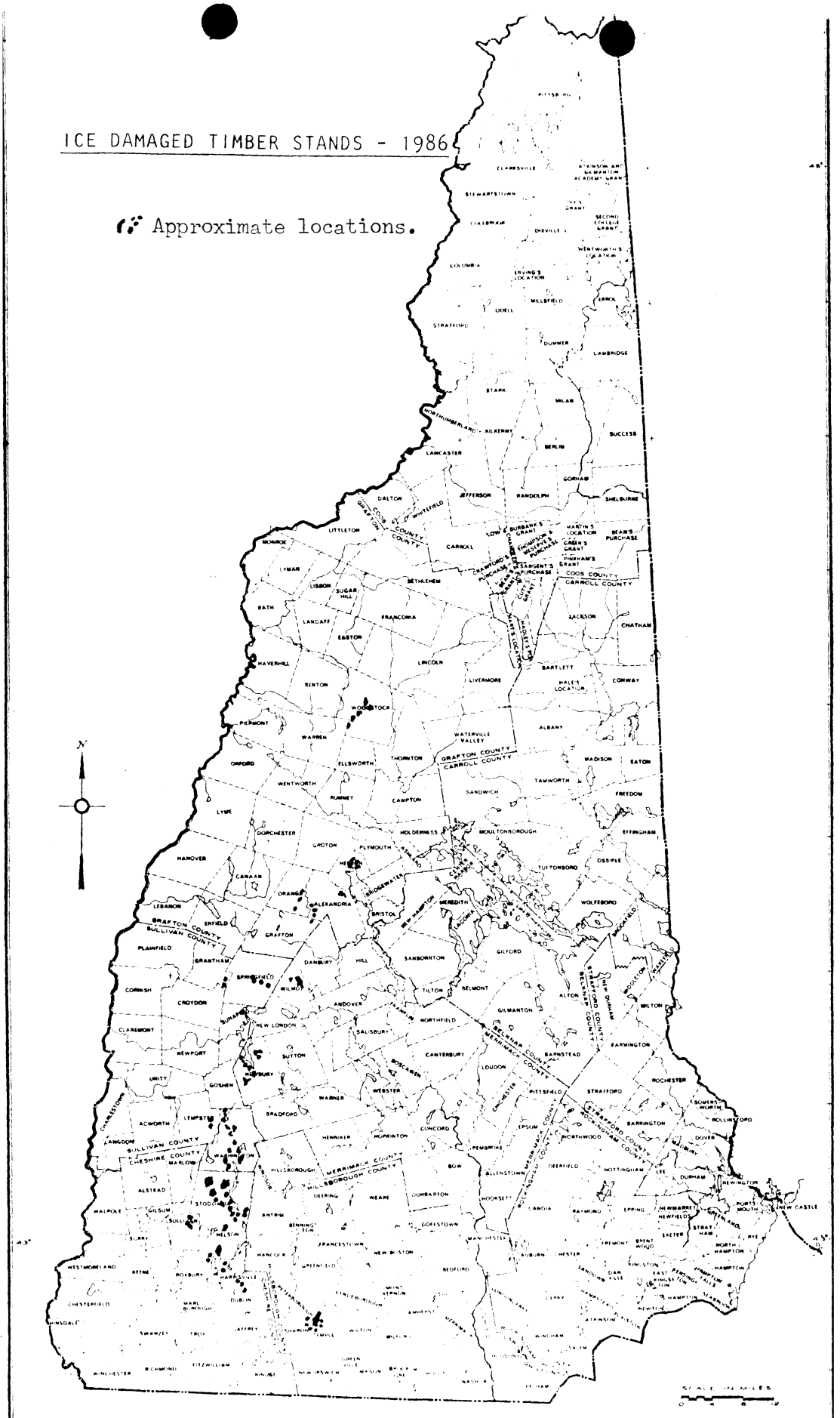
This survey was conducted on approximately 600,000 acres of our forest resource. The accompanying map shows the approximate locations of ice damaged forest stands observed by Forest Protection personnel.

Prepared by:

Alfred C. Avery
Forest Entomologist
May 1986

ICE DAMAGED TIMBER STANDS - 1986

Approximate locations.



REVISED 1977

PREPARED BY STATE OF NEW HAMPSHIRE
DEPARTMENT OF RESOURCES AND ECONOMIC DEVELOPMENT

State of New Hampshire
Department of Resources and Economic Development
DIVISION OF FORESTS AND LANDS
105 Loudon Road, Prescott Park, P.O. Box 856, Concord, N.H. 03301
Theodore Natti, Director Tel. (603) 271-2214

November 8, 1985

Margaret Miller-Weeks, Pathologist
USDA, FS, Northeastern Area
State & Private Forestry
P. O. Box 640
Durham, NH 03824

Dear Margaret:

Here are New Hampshire's forest insect and disease highlights for 1985. There is little that can be put on maps due to our low levels of defoliation. However we have been busy on some of these other things which should be kept on monitoring status, i.e., hardwood declines, gyp and budworm populations, etc.

If you need any additional information just give me a call - I do get in the office.

Sincerely yours,

Alfred C. Avery,
Entomologist

Forest Protection (603) 271-2217
Forest Management (603) 271-3456
Land Management (603) 271-3456
Information & Planning (603) 271-3457

1985 PEST CONDITIONS REPORT WORK SHEET

PEST (COMMON NAME): Spruce Budworm

(SPECIFIC NAME): Choristoneura fumiferana (Clemens)

HOST: Principally balsam fir.

PRESENT CONDITION: No areas of defoliation were observed during the aerial survey, neither were areas of feeding seen during ground reconnaissance in 1985.

AREA (TOTAL ACRES):

LOCATION: northern Coos County.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):

None.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):

Previously reported in 1984.

TREND: Down, hopefully out.

PAST TO PRESENT: Continued dwonward during the last 5 years.

FUTURE: 1 or 2 more years of declining population levels before static, preoutbreak, endemic levels will be reached.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS):

COMMENTS:

1985 PEST CONDITIONS REPORT WORK SHEET

PEST (COMMON NAME): Bruce Spanworm

(SPECIFIC NAME): Operophtera bruceata (Hulst)

HOST: Sugar maple, beech

PRESENT CONDITION: No defoliation caused by Bruce spanworm was observed on the 1985 aerial survey

AREA (TOTAL ACRES): Coos County and northern Grafton County where previous defoliation had occurred were examined from the ground.

LOCATION: Four areas, totalling about 470 acres, showed under-story feeding, none of which ever showed from the air.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):

No defoliation was evident from the air.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):

Many areas known to have been defoliated by the spanworm show twig dieback, tree decline and tree mortality; however, many other areas not known to have been defoliated by Bruce spanworm show hardwood decline also.

TREND:

PAST TO PRESENT: Confirmed feeding from ground observations prior to an aerial survey failed detection from the air. However, in several suspect areas twig dieback was readily observed during the flight.

FUTURE: Population levels for 1986 are expected to remain low.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None.

COMMENTS:

1985 PEST CONDITIONS REPORT WORK SHEET

PEST (COMMON NAME): Gypsy Moth

(SPECIFIC NAME): Lymantria dispar (Linnaeus)

HOST: Various hardwoods and some conifers.

PRESENT CONDITION: an aerial defoliation survey in mid-July revealed no noticeable defoliation in New Hampshire.

AREA (TOTAL ACRES): Survey covered all of southern New Hampshire, south of the White Mountain National Forest. 3,300,000 acres were flown.

LOCATION:

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): None. Occassional homeowner reports of feeding larvae were received. Evidence of similar type feeding was observed in all red oak stands visited during the late summer. Direct and indirect observations suggest low population levels are now equally distributed throughout N.H.'s red, white and chestnut oak resource.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None. Cursory survey of 60 oak stands south of the WMNF showed 36 areas (60%) had twig dieback. Dieback severity ranged from 10-70% of the crown. Apparent correlation between areas of a 1983 mid-June frost and heavy gypsy moth defoliations in 1981 and 1982, coincide with many of the areas showing moderate to severe twig dieback.

TREND:

PAST TO PRESENT: Population levels continue to remain at very low levels.

FUTURE: Continued low to a possibly slight rise in 1986.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS): None.

COMMENTS:

1985 PEST CONDITIONS REPORT WORK SHEET

PEST (COMMON NAME): Oak Skeletonizer

(SPECIFIC NAME): Bucculatrix ainsliella Murt.

HOST: Red Oak.

PRESENT CONDITION: roughly 113,300 acres.

AREA (TOTAL ACRES): Much of the oak/pine and oak/hickory forest types in Cheshire and Hillsboro Counties. Rockingham and Strafford Counties each have small infestations.

LOCATION:

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES):

Hillsboro County

Hillsboro County (57,300 acres) has heavy defoliation with most of the leaves showing 80% + feeding. Cheshire County (50,300 acres) with 40-80% of the lower leaf surface destroyed, upper surface dessicated. The 2 small areas in Rockingham (3,500 acres) & Strafford (2,200 acres) with lite defoliation, 10-20% of leaf surface destroyed.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES): None.

TREND:

PAST TO PRESENT: No occurrence of the first generation were made known to this office - second generation presence observed in early October.

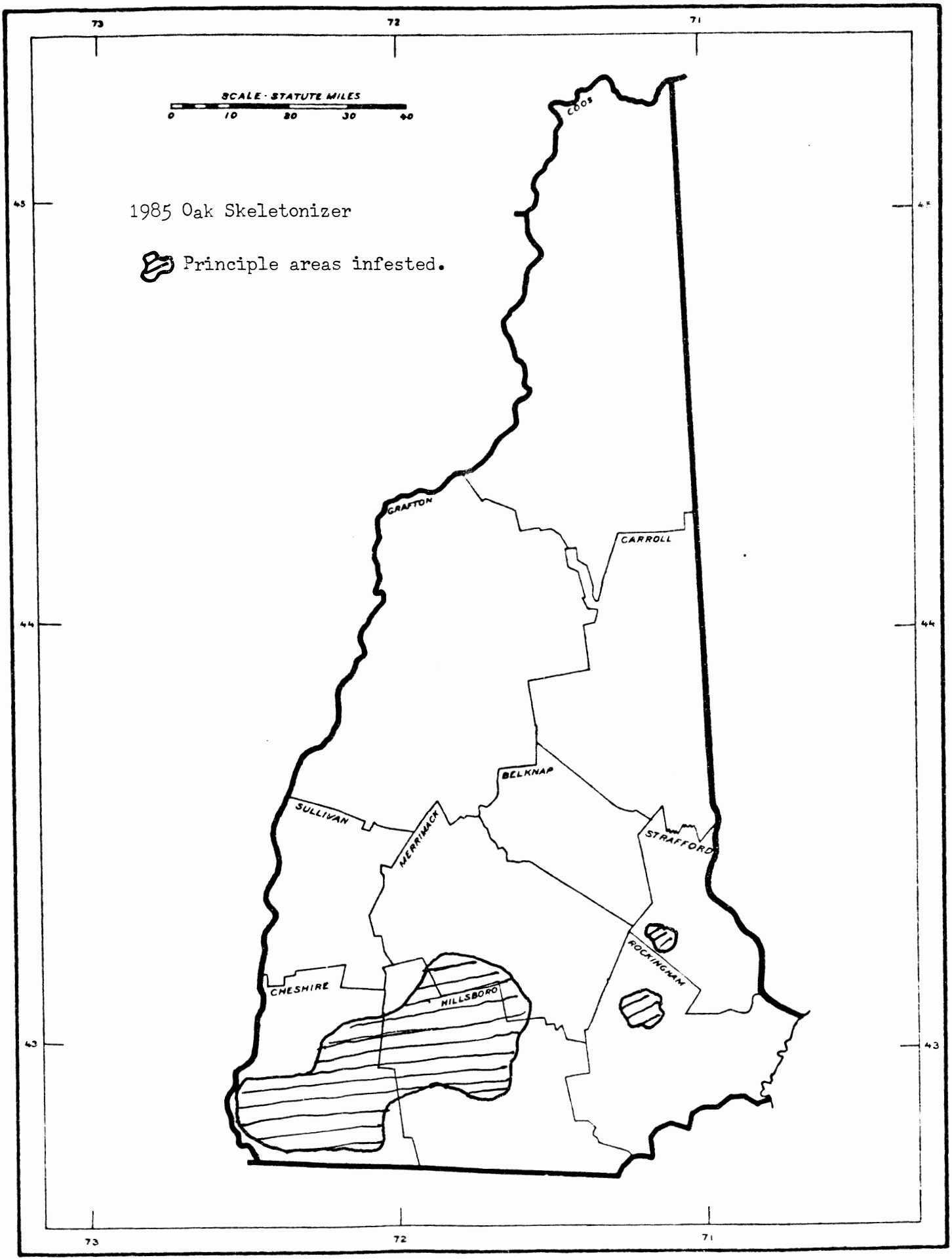
FUTURE: Unpredictable.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS):

None.

COMMENTS: May have the effect of intensifying the general hardwood decline as infestations are known to affect tree vigor.

NEW HAMPSHIRE



AD - 400.27

1985 PEST CONDITIONS REPORT WORK SHEET

PEST (COMMON NAME): Hardwood Decline

(SPECIFIC NAME): Twig Dieback.

HOST: sugar maple, red oak, white birch, yellow birch, beech, red maple, white oak and chestnut oak.

PRESENT CONDITION: generally observed throughout the hardwood areas of the state.

AREA (TOTAL ACRES): 2,500,000 acres.

LOCATION: Becomes spotty in northern Carroll County and eastern Strafford County based on a preliminary survey.

SEVERITY (INCLUDE ACRES OF MODERATE AND HEAVY DEFOLIATION OR INFECTION; DEFINE CLASSES): The survey based on roughly 1/5th-acre plots at 60 locations in dominant/co-dominant hardwood stands with a tally-threshhold of 10% + twig dieback. In 40% of the plots crown dieback though frequently present, did not reach 10% of any crown. In the remaining 36 plots, stems with 10% or more crown dieback ranged from 10% of the stand to 55%. The most severely affected tree species appeared to be red oak, sugar maple and white and yellow birch.

LOSSES (INCLUDE AREAS OF TREE MORTALITY; ALSO VOLUME AND/OR $ ESTIMATES):

No loss estimate has been determined at this time.

TREND:

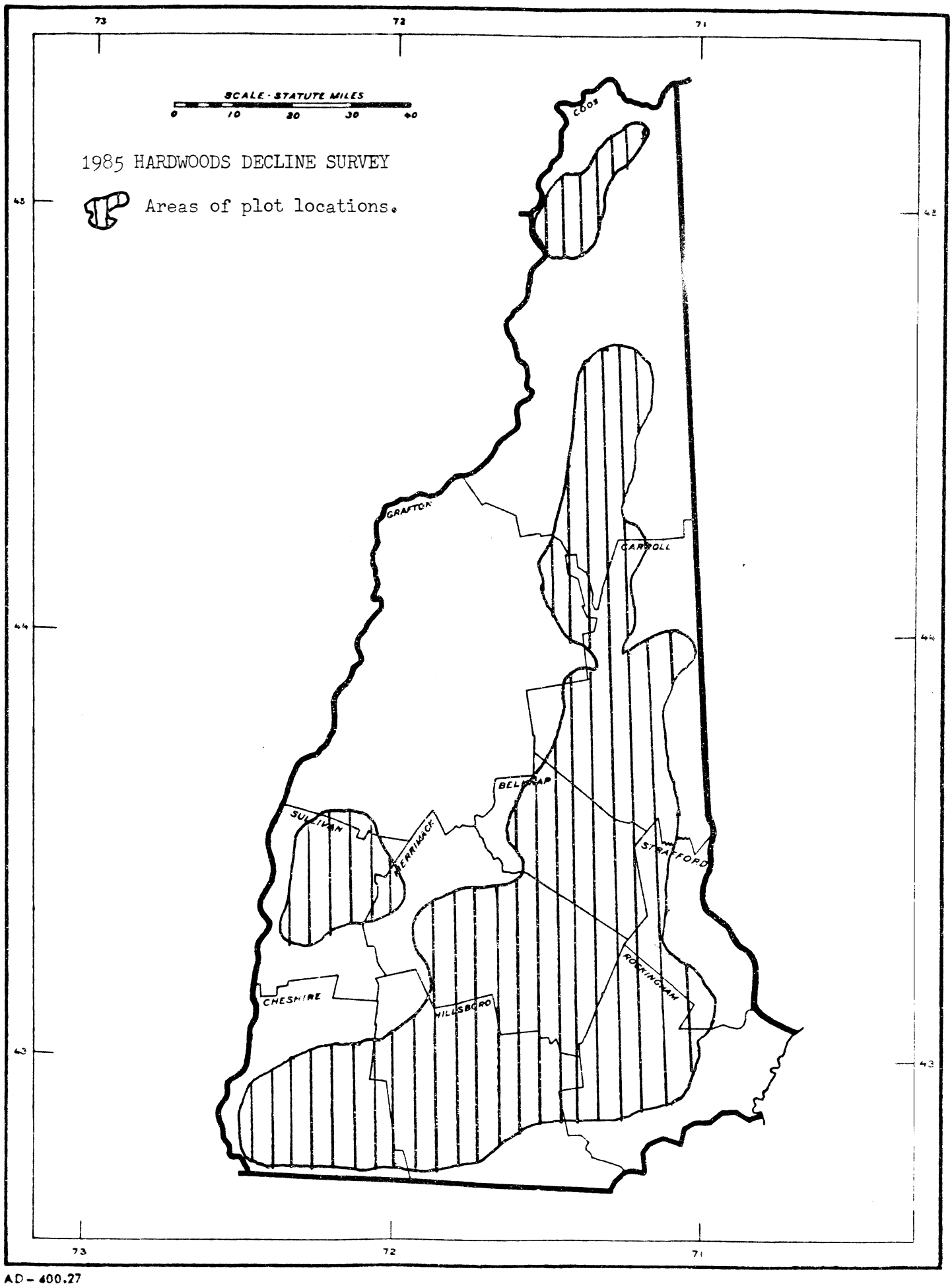
PAST TO PRESENT: many affected areas coincided with known past insect defoliations, i.e., Bruce spanworm, saddled prominent and gypsy moth. Several affected areas in each County however do not have a record of previous defoliation. Corings taken from affected sugar maple, white and yellow birch in Coos County showed reduced radial growth beginning 6 years ago in 1979.

FUTURE: Requires further evaluation before any potential trends can be made.

CONTROL PROJECTS (METHOD, MATERIAL, ACRES, COST, RESULTS):

COMMENTS:

NEW HAMPSHIRE



AD - 400.27